CLASSIFICATION CONFIDENTIAL

CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

COUNTRY Poland

SUBJECT Review of Problems of Chemistry in Poland

PLACE ACQUIRED - - -

DATE ACQUIRED BY SOURCE

DATE OF INFORMATION

DATE DISTR. 30 July 1954

NO OF PAGES 6

NO. OF ENCLS. (LISTED BELOW)

SUPPLEMENT TO REPORT NO.

25X1

THIS IS UNEVALUATED INFORMATION

25X1

25X1

1. Przemysl Chemiczny /Journal of Chemistry/, Volume (33)X, Page 1, dated January 1954 - "Actual Problems of Chemistry in Poland"

a. "The Polish chemical industry has, for the past 10 years, made rapid strides and is now one of the leaders in Europe. There are billions of tons of raw materials, such as: black and brown coal, peat, rock salt, potassium salts, gypsum anhydrides, etc. Possibilities exist to extend further development of another group of raw materials, namely: arsenic ores, pyrites, magnesite, sulphur, phosphorites, barytes, oil, natural gas, etc. In spite of very favorable conditions, prewar Poland did not develop her chemical industry to any appreciable degree. Chemical plants and factories such as "AZOT" in Zaworzno, "Rudniks", "Aniolow", and "Sterolin" in Lodz, "Temperol" in Warsaw, "Lutz" in Cracow, the pharmaceutical plant "L. Spies", and many others, were examples of backwardness in methods of production, equipment and procedures. The only plants equipped with modern machinery and comparatively better trained personnel were the nitrogen plants in Chorzow, the artificial silk plant in Lublin, and the soda plant near Cracow. The majority of the stockholders in the Polish chemical industry were foreign capitalists and, as a matter of fact, many of the larger firms were owned by

CONFIDENTIAL

DISTRIBUTION

25X1

foreigners. The main features of the prewar Polish chemical industry were as follows:

(1) "Old fashioned and inefficient equipment, low level mechanization, low level applied processes, and poor control of finished products.

(2) "Application of primitive production methods which had not been improved for decades; almost complete lack of graduate engineers, in spite of the fact that many such engineers were existent but unemployed; poorly planned factories, congestion of buildings, very poor safety conditions, lack of air conditioning and ventilating, as well as no health protection for employees.

(3) "Poor planning of assembly functions, insufficient expansion in production of finished products, and poor refining processes."

Development of Product[illegible] and Technical Conditions During the Last 10 Years

b. "Nazi occupation and war operations caused great damage and devastation to the Polish industry. Many factories were completely destroyed and considerable technical equipment was taken away. The nitrogen industry at Moscice was completely dismantled by the Nazis. After liberation most of the large factories were unable to begin production due to lack of equipment. The annexation of Western territories to Poland increased considerably the potential of the Polish chemical industry, particularly with reference to sulfuric acid, superphosphates, artificial fabrics, electrodes, etc. During the last 10 years Polish chemical industry has developed tremendously from very old fashioned and primitive methods of production, as well as in utilization of imported electrical equipment. Poland's chemical industry has become one of the most important branches of the national economy. The chemical industry of Poland is intricately interwoven with the total economy of Poland and, as a consequence, it creates new fields of endeavor for the Polish population. As a result, the standard of living in Poland should rise because a larger number of people will be employed. The advancement of the Polish chemical industry, especially for the past several years, has been characterized by the following:

(1) "The introduction of new branches of chemical endeavor and increase in output.

(2) "Application of new methods of production and utilization of very modern equipment.

(3) "Creation of new research bodies and planning offices.

c. "Through the planning of [fnu] Gyecer, new branches which never before existed are now functioning smoothly. New planning and new needs have resulted from the expansion of the chemical industry. A typical result of new planning can be illustrated by discussing phenol. In prewar Poland there was no plastics industry and, as a consequence, all phenol was exported to Germany. Today [1954] the supply of phenol in Poland is not sufficient for the requirements of the plastics industry and, as a consequence, artificial phenol is also manufactured. The demand for phenol continues to increase. Very similar conditions exist in other phases of the Polish chemical industry.

d. "Simultaneously, there is great progress in the advancement of such sciences as mechanics, electronics, electro-chemistry, and communications. The most important achievements relative to production can be listed as follows:

Production of:

(1) Sulfuric Acid

25X1

(2) Granulated Superphosphate

(3) Precipitated Phosphate

(4) Synthetic Phenol (Sulfonization Method)

(5) Synthetic Phenol (Chlorinbenzene Method)

(6) Synthetic Tanners

(7) Anhydride of Acetic Acid

(8) Azatox

(9) 2-4D

(10) Ester Acethyld - Acetic

(11) [illegible]

(12) Synthetic Waxes

(13) Synthetic Aliphatic Acids

(14) Synthetic Fuels (Liquid)

(15) Aldehyde of Acetic Acid

(16) Synthetic Acetic Acid

(17) Pent[illegible]

(18) Ethylene Derivatives

(19) Synthetic Fibers

(20) Penicillin (Crystal) Procaine

(21) Chloromycetin

(22) Hydrazide of [illegible] Acid

(23) P.A.S.

(24) Sulphides

(25) "Asth Pirayle" Derivatives [sic]

(26) Synthetic Hormones

(27) Vitamins B, C, D_2, and others

(28) Phenol Formaldehyde Resin (all types)

(29) Urea Resins

(30) Carbon Electrodes (all types)

(31) Graphite Electrodes

(32) Ethylene and Butylene Acetate

(33) Vulcanization Hastening Substances

(34) Dyes

(35) Naptbalene Basis

(36) Pigments

(37) Lacquers

(38) More than 300 Chemical Re-agents"

2. Comments and Evaluation

a. Before WWII almost 61 percent of the inhabitants of Poland were engaged in agriculture, a fact which I consider convincing evidence that Poland was essentially an agricultural country. Although a preponderant portion of Polish economic effort was concentrated in agriculture, it is obvious that almost [illegible] of her economy was of an industrial type. Until WWII began, [illegible] was continually increasing, either measured in terms of capital value, wages, or number of employees gainfully occupied in the industrial economy of Poland.

b. The natural conditions of Poland were such as to encourage the growth of industry for she was rich in mineral resources, such as: coal, iron, zinc, lead ore, rock salt, potassium salts, pyrites, phosphorites, kaolin pits, oil, natural gas, and mineral water; raw materials from vegetables which were suited to the Polish climate and soil, such as: potatoes, grain, beets, flax and hemp, rape, linseed, hardwoods, and raw materials from animals. About 80 percent of the raw materials enumerated in Polish chemical publications are mined or produced in Poland. However, Poland lacks some very important materials, such as: tin, sulphur, copper, tungsten, molybdenum, selenite, and such raw materials as could be produced in tropical and sub-tropical countries.

c. The natural geographic conditions such as Poland's location in Europe, a flat surface, an excellent water supply, and north-to-south routes, and east-to-west routes, were such as to favor readily the industrialization of the country. Before the war, Poland's population was 35 million and the natural rate of increase was 1.3 percent annually, as compared with .6 percent in the US. Density of population was 230 per square mile, as compared with 196 in France.

d. Judged by world standards, the volume of pre-WWII Polish industry was not great, but its most characteristic feature was its comparative universality. Its wide distribution, a certain equilibrium, and the constant development of individual branches in Polish industry, gave it a completeness to be found only in the more highly industrialized nations, particularly the US.

e. It is true, as the author states, that the chemical industry in Poland was almost non-existent, but this was in the period prior to 1918. During the 20 years of independence which Poland enjoyed after WWI, exceptional progress was made in this field. The industry was in no way as primitive as the author states. Industrial production was distributed among 29 thousand large and medium-size factories. The number of persons employed in mining, metallurgy, and other industries was, in 1939, about one million. This factor indicates an increase of 45 percent in industrial employment when compared to the first statistics which were collected in Poland in 1925. The 1936 Polish Government created favorable conditions for the establishment of new industrial undertakings by granting relief from taxation or by investing public funds in high tension power lines, gas supply, and communications, which were centered in Centralny Okreg Przemyslowy [Central Industrial District]. The general growth of COP from 1936 to 1939 was tremendous.

f. There were about seven hundred chemical factories in 1939 producing nitrates, potash, phosphorus fertilizers, and soda compounds. The organic industry produced dye and pharmaceuticals. It developed the manufacture of artificial textile fabrics, fats, soap, bone glue, explosives, plastic materials, paint, varnish, lacquer, organic solvents, etc. Poland was considered one of the eight leading countries of the world in the chemical industry, and did possess a satisfactorily developed and flourishing industry.

g. Poland, primarily an agricultural country, had, prior to WWII, a highly developed food and lumber industry. There were 60 sugar plants producing 562 thousand tons of beet sugar, or 5.5 percent of the total world production. The production of ethyl alcohol was second in volume to that of sugar. Poland was the sixth largest alcohol producer in the world. In 1939, alcohol production reached 78 million liters of two hundred proof alcohol which was obtained from 612 thousand tons of potatoes and manufactured at 1450 distilleries.

h. Although the meat industry is not directly related to chemistry, it is a well-known fact that bacon and other cured meat products were shipped in large quantities to many parts of the world. These foodstuffs were, by international standards, considered to be among the best in quality and in methods of curing.

i. The lumber industry, as previously mentioned, produced exceptionally high quality plywood and veneer which were exported to most parts of the world.

j. The mineral industry embracing brick, cement, glass and porcelain, produced more than enough for the home market. Cement, glass, porcelain and faience were exported to most parts of the world.

k. The paper and cellulose industry, as well as the leather goods industry, all necessitating considerable chemical technique, had a very wide range of products which entirely satisfied the home market and provided surpluses for foreign markets.

l. In spite of the criticism by the author, and in spite of the fact that I have attempted to show that Poland was not as retarded in chemistry as has been mentioned above, there was need for improvement in many branches. Precisely, some of the more obvious needs were as follows:

(1) More precision methods in manufacture.

(2) An increase in the number of plants and factories.

(3) Better trained personnel.

(4) A means of absorbing technicians and semi-skilled workers who were being prepared by the universities.

m. In spite of the fact that Poland had her obvious shortcomings, in my estimation she could be proud of the fact that she had achieved such a high standard and technique in the chemical field in such a short space of 20 years. In substance, I would say that the author of "Actual Problems of Chemistry in Poland" in reviewing the period from 1918 to 1939 is very grim, and that his appraisal of prewar Polish chemical industry is very much exaggerated. He further exaggerates to a great extent on the so-called development which has ensued for the past ten years in Poland. Many of the items listed in paragraph 1d on pages 2, 3, and 4 were, I am positive, manufactured in pre-Communist Poland. Most of the new items were in projection or in pilot phases prior to

25X1

Communist domination. It is a physical impossibility for the Polish chemical industry to have fulfilled and completed all of the projects and developed all of the items which the author lists above. Many of the aforementioned items are completely uneconomical if they are to be absorbed solely by Polish industry and by Poland herself. In view of this fact, it appears that Polish chemistry is, or will be, supplying her Soviet masters. Let us take a typical example -- anhydride of acetic acid. Production of this item was considered as early as 1934. Production of three hundred tons per day of anhydride was far too great for total Polish demands for one year. It was impossible to find markets for any surplus of anhydride because German industry had its established customers and Poland could not possibly compete with it. It is also absolutely impossible that Poland's newly created plastic and artificial fiber industry utilizes three kinds of phenol. If such large amounts of phenol are being produced, they are being exported to the USSR or to East Germany which purchased phenol from Poland prior to WWII.

n. It is also very well known that such antibiotics as streptomycin, penicillin and chloromycetin, and such vitamins as they claim to produce are needed very badly by the Polish population. It is also known that the aforementioned drugs and medicines which are manufactured by Polish chemists, are of such a low quality that local physicians do not recommend any antibiotics or drugs which have been produced locally.

- end -

LIBRARY SUBJECT AND AREA CODES

614.02 55M
710.1 55M